

PROCEEDINGS OF THE
ROYAL ENTOMOLOGICAL SOCIETY
OF LONDON

SERIES C. JOURNAL OF MEETINGS

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ORDINARY MEETING.

WEDNESDAY, 3rd JULY, 1957, at 5.30 p.m.

AGENDA.

1. Confirmation of the Proceedings of the Ordinary Meeting held on 5th June, 1957.
2. Recommendations of candidates for Fellowship. First reading.
3. Recommendations of candidates for Fellowship. Second reading.
4. Announcement of election of new Fellows.
5. Additions to the Library [see p. 27].
6. Admission of Fellows.
7. Exhibits.

Fellows are particularly requested to bring suitable exhibits to the Meeting even though it may not be possible to announce their intention to do so beforehand.

Note.—To avoid congestion in the Library and to enable exhibits to be displayed to greater advantage, a table has been placed in the meeting-room for this purpose. Fellows are asked to place their exhibits on this table, with a suitable explanatory note, as soon as possible on the afternoon of the meeting, so that they are available for inspection there before the meeting opens.

8. Communications.

1. Mr. P. F. Mattingly.

An important problem of mosquito nomenclature.

[ABSTRACT].

Aedes aegypti Linnaeus is one of the best known names in medical entomology. It is commonly applied to the yellow fever mosquito, but a careful study of Linnaeus' original description has shown that it was quite a different species which he described. An application is being made to the International Commission to fix the name *aegypti* by attaching it to a neotype. This involves some

interesting nomenclatorial considerations and further problems arise in connection with the choice of neotype since *Aë. aegypti* has been the subject of a recent study on infraspecific taxonomy.

2. Mr. R. C. B. Hartland-Rowe.

The biology of a tropical mayfly.

[ABSTRACT].

A study of the biology of *Povilla adusta* Navas, a mayfly widely distributed in tropical Africa, has disclosed a number of interesting features, some of which appear to be unique among Ephemeroptera. The source of the silk-like substance (first described by Arndt) with which the burrows are lined, has been traced to the Malpighian tubules. This material is passed out of the anus as a solid mass and moulded into position by the forelegs of the larva. The feeding of the larva has been shown to take place by a complex filtering mechanism; planktonic algae are collected on pinnate setae on the forelegs and mandibles and transferred to the mouth by regular movements of the maxillary and labial palps.

The most striking feature of the biology of the species is the periodicity of emergence of the winged stages which only live for about one and a half hours; they are only seen between about 7.30 and 9 p.m. (East African Standard Time) on a few evenings after every full moon, the greatest number appearing on the second evening after the date of full moon.

Experimental work is described which indicates a possible means by which this lunar rhythm may be maintained and the adaptive significance of the phenomenon is discussed.

TEA will be served in the Library before the meeting.

NOTICES.

Living specimens (up to 24 a week) of the beetle species listed below are required by the **Department of Zoology, Downing Street, Cambridge**, for an investigation of the physiology of flight muscle. Fellows who are able to assist are requested to send specimens to Dr. J. W. S. Pringle, at the Department of Zoology. Expenses will gladly be refunded.

Lucanus cervus (the large stag beetle) (either sex).

Melolontha melolontha (the large cockchafer).

Geotrupes stercorarius (the large dung beetle).

Hydrous (Hydrophilus) piceus } (large water-beetles).

Dytiscus marginalis

Provision of refreshments after Ordinary Meetings.

Coffee and biscuits will be available in the Library after the meeting on payment of one shilling per person. Fellows intending to stay for these refreshments are asked to sign the list beside the Attendance Book before 5.30 p.m.

The Library will continue to be closed at the end of the meeting.

Forthcoming Ordinary Meetings.

2nd October, 1957.

- (1) **Professor O. W. Richards.**—Predacious insects on broom.
- (2) To be arranged.

6th November, 1957.

Mr. R. C. Fisher.—A re-investigation of flightlessness in the Coleoptera of Madeira.

PROCEEDINGS OF THE ORDINARY MEETING HELD ON 5TH JUNE, 1957.

Mr. W. V. HARRIS, Vice-President, in the Chair.

Present, 54 Fellows and 10 Visitors.

Before the meeting opened the Vice-President announced that the President was progressing satisfactorily, and hoped to be fully recovered from his illness by the autumn.

The Vice-President then extended a welcome to Dr. Fox, of Pittsburgh, U.S.A.

The minutes of the Ordinary Meeting held on 1st May were confirmed and signed by the Vice-President.

The names of the following candidates for election were read for the first time : Dr. Judson Linsley Gressitt, Ph.D. ; Dr. Delfa Guiglia ; Mr. Ian Robert Harrison ; Mr. Syed Imam Hossain Kazi ; Mr. Mohammad Abdul Khaleque ; Mr. Khushi Muhammad Khalid, B.Sc. ; Mr. Ahmadullah Khan, B.Sc. ; Mr. Leonard Philip Lefkovitch, B.Sc. ; Mr. Syed Abdul Munim ; Mr. Peter J. S. Olney, B.Sc. ; Mr. Ahmed Abdur Rahim, B.Sc. ; Dr. Arthur Harold Bruce Rydon, L.R.C.P., M.R.C.S. ; Mr. Prakash Sarup, M.Sc. ; Mr. Krishnamoorti Satyanarayana ; Mr. Fazal Rahim Shaikh, B.A. ; Mr. Hajee Shareef, B.Sc. ; Mr. Don Quintus Suriaratchie ; Mr. Arthur Woods, M.A. ; and Mr. Kurukulaarachchige Don Marceline Blandy Nanayakkara Wijegooneratne.

For the second time (taken as read) : Dr. John Philip Glasgow ; Mr. George Anderson Hugh McClelland, B.A. ; Mr. Suvendu Kumar Majumder, M.Sc. ; Mr. Nalkur Bhavani Shankar Rao ; Mr. Michael Thomas Tanton ; and Mr. Stanley Wood, B.Sc.

The Secretary read the names of the following newly elected Fellows of the Society : Mr. Jagdish Parshad Aggarwal, M.Sc., Government College, Narnaul, Punjab, India ; Miss Jean Margaret Davies, B.Sc., Forestry Commission Research Station, Alice Holt Lodge, Farnham, Surrey ; Mr. Benjamin A. Foote, Department of Entomology, Cornell University, Ithaca, New York, U.S.A. ; Mr. Carroll B. Knowlton, Jr., Department of Entomology, Cornell University, Ithaca, New York, U.S.A. ; Mr. Stuart Edmund Neff, Department of Entomology, Cornell University, Ithaca, New York, U.S.A. ; Mr. Raghavaro Nyayapati, Government Agricultural College, Bapatla, Guntur District, Andhra Pradesh, India ; Mr. Norman Karl Sylvester, B.Sc., 29, Ridding Lane, Greenford, Middlesex ; and Mr. Michael James Tyler, 175, Waldegrave Road, Teddington, Middlesex.

Thanks were voted to donors of gifts to the Library since the last meeting.

Mr. C. D. Green, Mr. N. D. Jago, Mr. J. H. Johnson, Mr. G. A. Matthews, Mr. R. D. Pope, Dr. M. E. Solomon and Mr. M. J. Tyler signed the Obligation Book and were admitted Fellows of the Society.

The Vice-President read a notice on behalf of the Kent Field Club, asking for information to assist in the compilation of a fauna and flora of the county.

Mr. G. A. Brett exhibited living specimens of adults and nymphs of *Periplaneta australasiae* F. and *Pycnoscelus surinamensis* L. (Blattidae). They had been collected from greenhouses by Inspectors of the Ministry of Agriculture, Fisheries and Food Infestation Control Division and subsequently reared in

culture at 82° F. (27·9° C.). They had been feeding on and damaging plants in the greenhouses. In culture they were fed on potato and carrot.

P. australasiae has the habit of protecting its ootheca when it deposits it on a hard surface by plastering it with particles chewed off the substrate.

Pycnoscelus surinamensis is a tropical species of largely subterranean habit, burrowing in the surface layers of rather dry soil. It is parthenogenetic, and in North America the male is unknown, but it has been found in the Malayan region (1917, Hebard, M., The Blattidae of North America, *Mem. Amer. ent. Soc.* 2). In culture a female, after producing an ootheca in the normal way, rotated it to the left and withdrew it back into the body. It then formed a cell without an exit in damp sand and has been resting in it for a month without feeding.

Dr. H. E. Hinton gave a paper on the function of the tissue isolated in the pupal gill of a Tipulid at the pupa-adult moult, an abstract of which appeared on page 18.

In the discussion which followed Dr. A. N. Clements said that it seemed to him that only blood clotting was involved in the repairs to the gill and that the formation of a tanned protein had not been demonstrated.

Dr. Hinton said that the clot itself was tanned in due course. It became the plug of sclerotin of which he had spoken. Once the plug is tanned it fails to disperse even after more than 24 hours in concentrated nitric acid. Furthermore, the formation of the tanned plug can be prevented by the addition of phenylthiourea.

Dr. Clements said that a drop of blood darkens on exposure but this was not tanning.

Dr. Hinton replied that when darkening was due to the formation of melanins there was no tanning. Melanin could be added to gelatin without tanning it. He said that he had already pointed out that the dark colour of the wound plugs was not in itself the evidence that the material of which they were composed was sclerotin.

Dr. Clements said that one would expect that in nature large wounds were sometimes made in the gills and he wondered if the gills could repair large wounds.

Dr. Hinton replied that a disk of sclerotin is formed across the cut end of a gill branch even when it is severed near its base.

Miss D. J. Jackson asked if the cells increase in size when the tissue dissociates.

Dr. Hinton said that he had observed no increase in cell size in *Taphrophila*, but in *Lipsothrix*, in which the isolated epidermis becomes a syncytium, the nuclei become twice and sometimes even four times as large as when first isolated.

Dr. M. E. Solomon said that he agreed that the moult was not the same thing as the shedding of the cuticle, but as most people spoke of shedding the cuticle as the moult, a new term was required.

Dr. Hinton said that he agreed. He had proposed the term "pharate" to avoid circumlocution when speaking about the insect enclosed in the cuticle of a previous instar or stage. This was a useful term when speaking about the adult enclosed in the pupal cuticle, but as he had been abused for the introduction of this term he was going to let someone else propose the term that was now required to distinguish between what the physiologist called the moult and most people called the moult.

E. B. BRITTON, *Honorary Secretary.*

The next meeting will be held on 2nd October at 5.30 p.m.

ADDITIONS TO THE LIBRARY.

Presented.

- Bateson, W. *Problems of genetics*. 8vo. New Haven: Yale Univ. Pr., 1913. [Dr. E. A. Cockayne's Bequest.]
- Beirne, B. P. Leafhoppers (Homoptera: Cicadellidae) of Canada and Alaska. *Canad. Ent.* **88** (Suppl. 2). 1956. [Entomology Laboratory, Science Service, Belleville, Ont.]
- Doncaster, L. *The determination of sex*. 8vo. Cambridge. 1914. [Dr. E. A. Cockayne's Bequest.]
- Mattingly, P. F. *The culicine mosquitoes of the Indomalayan area*. 1. *Genus Ficalbia Theobald*. 8vo. London. 1957. [Trustees of the British Museum (Natural History).]
- Seok, D. M. *A synonymic list of butterflies of Korea (Tyōsen)*. 8vo. Seoul. 1939. [The Council, Korean Branch, Royal Asiatic Society.]
- Wood, J. G. *Common British insects*. 8vo. London. 1883. [Dr. E. A. Cockayne's Bequest.]

Purchased.

- Bastin, H. *Freaks and marvels of insect life*. 8vo. London. 1954.
- Bonnet, P. *Bibliographia Araneorum*. Tome II (3me partie: G-M). 8vo. Toulouse. 1957.
- Brandt, H. *Insekten Deutschlands*. II. *Schmetterlinge*. Teil 2. *Libellen, Heuschrecken und weitere Insektenordnungen*. Sm. 8vo. Heidelberg. 1954. [Winter's Naturw. Taschenbucher **20**.]
- Coleopterorum Catalogus*. *Supplementa* edita a W. D. Hincks. Pars 35, fasc. 1. *Chrysomelidae: Hispinae*. E. Uhmann. Pars. 51, fasc. 3. *Chrysomelidae: Orsodacninae*. P. Jolivet. 8vo. 's-Gravenhage. 1957.
- Cott, H. B. *Zoological photography in practice*. 8vo. London. 1956.
- Hanström, B. and others. *South African animal life. Results of the Lund University expedition 1950-1951*. Vols. 2 and 3. 4to. Stockholm. 1955, 1956.
- Kugler, H. *Einführung in die Blütenökologie*. 8vo. Stuttgart. 1955.
- Schenck, E. T. and McMasters, J. H. *Procedure in taxonomy*. (1936.) 3rd ed. enl. and in part rewritten by A. M. Keen and S. W. Muller. 8vo. Stanford, Cal. 1956.
- Stichel, W. *Illustrierte Bestimmungstabellen der Wanzen*. II. *Europa*. 18 Hft. 8vo. Berlin-Hermsdorf. 1957.
- Swezey, O. H. *Forest entomology in Hawaii: an annotated check list, etc.* Ed. R. H. Van Zwaluwenberg. 8vo. Honolulu. 1954. [Spec. Publ. Bernice P. Bishop Mus. **44**.]
- Werner, A. *Butterflies and moths*. 4to. London. 1956.
- Wigglesworth, V. B. *Insect physiology*. (1934.) 5th ed. rev. 8vo. London. 1956. [Methuen's Monographs on Biological Subjects.]

In addition separates have been presented by Dr. T. E. Woodward; Mr. S. E. W. Carlier; Dr. T. T. Macan; Mr. H. E. Hammond; Dr. T. Karabag; Mr. N. C. E. Miller; Professor D. M. Davies; Dr. C. B. Williams; Chief Entomologist, E.A.T.R.O., Shinyanga; Anti-Locust Research Centre; Department of Zoology, Glasgow University; Dr. J. R. Busvine; United States Department of Agriculture; Mr. J. E. H. Blackie; Professor A. C. Sen; Mr. J. Snelyd Taylor; Dr. J. L. Cloudsley-Thompson; Dr. K. U. Clarke and Mrs. V. M. Muspratt.

NOTICES

In addition to the *Transactions and Proceedings* (Series A, B, and C), the following publications are available on application at the Society's rooms:—

THE GENERIC NAMES OF BRITISH INSECTS, WITH CHECK LISTS OF THE SPECIES, prepared by the Committee on Generic Nomenclature of the Royal Entomological Society of London with the assistance of the Department of Entomology of the British Museum (Natural History):—

Part 1. Recommendations relating to the publication of the Committee's Reports									
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9.	Coleoptera Staphylinidae	40s. 0d.

HANDBOOKS FOR THE IDENTIFICATION OF BRITISH INSECTS.

The Society has undertaken the issue of a series of publications intended to provide illustrated Keys to the whole of the British Insect Fauna so far as this is possible.

It is proposed to cover this field in a series of ten volumes, arranged as follows:—

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| <p>I. Part 1. General Introduction.</p> <p>2. Thysanura.</p> <p>3. Protura.</p> <p>4. Collembola.</p> <p>5. Dermaptera and Orthoptera.</p> <p>6. Plecoptera.</p> <p>7. Psocoptera.</p> <p>8. Anoplura.</p> <p>II. Hemiptera. III. Lepidoptera. IV and V. Coleoptera.</p> <p>VI. Hymenoptera : Symphyta and Aculeata.</p> <p>VII. Hymenoptera : Ichneumonidea.</p> <p>VIII. Hymenoptera : Cynipoidea, Chalcidoidea and Serphoidea.</p> <p>IX. Diptera : Nematocera and Brachycera. X. Diptera : Cyclorrhapha.</p> | <p>Part 9. Ephemeroptera.</p> <p>10. Odonata.</p> <p>11. Thysanoptera.</p> <p>12. Neuroptera.</p> <p>13. Mecoptera.</p> <p>14. Trichoptera.</p> <p>15. Strepsiptera.</p> <p>16. Siphonaptera.</p> |
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The following parts are now available:—

- Vol. I, Part 2. Thysanura and Diplura. By M. J. Delany. Price 2s. 6d. plus postage.
- Vol. I, Part 5. Dermaptera and Orthoptera. By W. D. Hincks. Second edn. Price 6s. 0d. plus postage.
- Vol. I, Part 6. Plecoptera. By D. E. Kimmins. Price 3s. 6d. plus postage.
- Vol. I, Part 9. Ephemeroptera. By D. E. Kimmins. Price 3s. 6d. plus postage.
- Vol. I, Part 10. Odonata. By F. C. Fraser. Second edn. Price 10s. 0d. plus postage.
- Vol. IV, Part 3. Coleoptera, Hydradephaga. By F. Balfour-Browne. Price 6s. plus postage.
- Vol. IV, Part 8a. Coleoptera : Staphylinidae (part). By C. E. Tottenham. Price 15s. 0d. plus postage.
- Vol. V, Part 7. Coleoptera : Coccinellidae and Sphindidae. By R. D. Pope. Price 2s. 6d. plus postage.
- Vol. V, Part 9. Coleoptera. By F. D. Buck. Price 6s. plus postage.
- Vol. V, Part 12. Coleoptera : Cerambycidae. By E. A. J. Duffy. Price 3s. 6d. plus postage.
- Vol. V, Part 15. Coleoptera, Scolytidae and Platypodidae. By E. A. J. Duffy. Price 3s. 6d. plus postage.
- Vol. VI, Part 2a. Hymenoptera : Symphyta (part). By R. B. Benson. Price 10s. 0d. plus postage.
- Vol. VI, Part 2b. Hymenoptera : Symphyta (contd.). By R. B. Benson. Price 15s. 0d. plus postage.
- Vol. IX, Part 1. Diptera : Introduction and Key to Families. By H. Oldroyd. Second edn. Price 7s. 6d. plus postage.
- Vol. IX, Part 2. Diptera, Nematocera : Families TIPULIDAE to CHIRONOMIDAE. By R. L. Coe, Paul Freeman and P. F. Mattingly. Price 20s. 0d. plus postage.
- Vol. X, Part 1. Diptera : Syrphidae. By R. L. Coe. Price 17s. 6d. plus postage.
- Vol. X, Part 4a. Diptera, Cyclorrhapha (part). By F. I. van Emden. Price 20s. 0d. plus postage.

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Fellows of the Society may purchase one copy at a discount of 25 per cent.; additional copies at the full published price.

STYLOPS, a Journal of Taxonomic Entomology.

1932-1935. Vols. 1-4 (all issued). Price £2 3s. 0d. each; to Fellows £1 12s. 9d.

HÜBNER : A BIBLIOGRAPHICAL AND SYSTEMATIC ACCOUNT OF THE ENTOMOLOGICAL WORKS OF JACOB HÜBNER AND THE SUPPLEMENTS THERETO. In 2 vols. By Francis Hemming. Price : Vol. 1. 605 pp. £1 15s. 0d.; Vol. 2. 275 pp. 15s. 0d.

THE HISTORY OF THE ENTOMOLOGICAL SOCIETY OF LONDON, 1833-1933. By S. A. Neave, assisted by F. J. Griffin. Price 10s. 6d.

SERIAL PUBLICATIONS IN THE LIBRARY OF THE ROYAL ENTOMOLOGICAL SOCIETY OF LONDON. 1951. Price 5s. 0d.

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